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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/886,257 | 06/22/2001 | Toshiaki Kuri | 210239US2 | 5543 |

7590 12/03/2004
Oblon, Spivak, McClelland, Maier & Neustadt
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Arlington, VA 22202

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| EXAMINER |
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BELLO, AGUSTIN

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| ART UNIT | PAPER NUMBER |
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2633

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,257

Applicant(s)

KURI ET AL.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 9-18, 21-23, 26, 27, 30, 31, 34, 35, 38, 39, 42, 43, 46, 47, 50 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/16/03, 7/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3,4,7,8,19,20,24,25,28,29,32,33,36,37,40,41,44,45,48 and 49.

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of Species I shown in Figure 1 in the reply filed on 7/19/04 is acknowledged. However, in contrast to the applicant's assertion that claims 16-53 read on the elected species, the examiner has instead determined that claims 1-2, 5-6, 9-18, 21-23, 26-27, 30-31, 34-35, 38-39, 42-43, 46-47, and 50-51 read on the elected species.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the extracting means of claim 10, 30, and 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes

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are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 5-6, 9, 16-18, 21-23, 26-27, are rejected under 35 U.S.C. 102(b) as being anticipated by Kikushima (U.S. Patent No. 5,896,216).

Regarding claims 1, 2, 5, and 6, 16, 21, Kikushima teaches a method for transmitting high-frequency signals in an optical communication system, the method comprising the steps of: combining an optical signal (e.g. output from reference numeral 111 in Figure 9B), a first optical local component from a local light source (reference numeral 112-1 in Figure 9B) and a second optical local component from the local light source (reference numeral 112-1 in Figure 9B) having a predetermined frequency differential from the first optical local component; selecting a first high-frequency signal which consists of two predetermined electrical components (reference letter D in Figure 9B) from plural electrical components obtained by an optical frequency mixing process; and mixing (reference letter G in Figure 9B) the two selected electrical components (reference letters E and F in Figure 9B) included in the first high-frequency signal.

Regarding claims 9, 26, 27, Kikushima teaches means (reference numeral 111-1 in Figure 9B) generating an optical carrier component with a single-mode light source that

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produces a single-mode optical carrier; and means (reference numeral 111 in Figure 9B) for generating an optical sideband component obtained by modulating the optical carrier component by a high-frequency signal by means of optical modulation.

Regarding claims 17, 22 Kikushima teaches that the plural signal components are obtained by an optical frequency mixing process to form the first signal as a first high frequency signal (e.g. the combination of the local light and the signal light, the combined light then being introduced to the photodetector in Figure 9B).

Regarding claims 18, 23, Kikushima teaches selecting a second high frequency signal (e.g. output "G" of reference numeral 11E-3 in Figure 9B being selected by a filter of TV reference numeral 4 in Figure 14A) whose frequency is lower by an amount of the predetermined frequency differential than a carrier frequency of the first high frequency signal obtained by the optical frequency mixing process (e.g. the result of the mixing process and channel/filtering selection by TV 4 in Figure 14A).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-15, 30-31, 34-35, 38-39, 42-43, 46-47, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikushima.

Regarding claims 10, 30 and 31 Kikushima teaches that the combining means (reference numeral 112-2 in Figure 9B) has a configuration that projects plural light beams onto a photo-detector (reference numeral 112-3 in Figure 9B) to be combined, but

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differs from the claimed invention in that Kikushima fails to specifically teach that the combining means also extracts at least part of combined optical signal as electrical signals. However, combining means such as that taught by Kikushima and claimed by the applicant are well known in the art to come in a wide variety of configurations including a configuration wherein the combining means also extract at least part of the combined optical signal as electrical signal. One skilled in the art would have been motivated to include such a combining means in the device of Kikushima in order to monitor the signals output from the local light source. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include a light combining means that also extracts at least part of combined optical signal as electrical signals.

Regarding claims 11, 34, and 35, Kikushima teaches that the photo-detector has a configuration of a balanced receiver (reference numeral 112C-3 in Figure 11).

Regarding claims 12-15, 38-39, 42-43, 46-47, and 50-51, Kikushima differs from the claimed invention in that Kikushima fails to specifically teach the various methods for generating the first and second optical local light sources. However, after reviewing the applicant's specification and the prior art, the examiner has determined that each of the methods claimed are well known in the art and would have been obvious to one skilled in the art at the time the invention was made. One skilled in the art would have been motivated to employ any one of the various well known methods for generating the first and second optical local light sources claimed based on the availability of elements or the need to meet specific design requirements. Regardless, the claimed methods do

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not introduce patentable material to the claims. Moreover, the end product of the both the claimed invention and the prior art is the same.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
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A handwritten signature in black ink, appearing to read 'A. Bello', written over the printed name and title.

AB